

Serial No. 10/830,160
67,008-084
S-5708

REMARKS

Applicant wishes to thank the Examiner for the detailed remarks and allowability of claims 13, 14, and 16-21. Claim 20 has been amended to independent form. Claims 11-19 and 21 are pending.

Applicant hereby confirms the election of claims 11-21 and cancels claims 1-10.

Claim 11 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Durno* (4027999) in view of *Cheney Jr.* (3521971). Applicant respectfully traverses this rejection in that neither *Durno* nor *Cheney*, either alone or in combination, discloses, teaches, or suggests independently controlling the first rotor system and the second rotor system to maintain a minimum rotor blade tip separation as required by independent claim 11.

As an initial matter, the Examiner admits that *Durno* fails to disclose a control to maintain a minimum rotor blade tip separation. *Cheney* fails to correct this deficiency. As discussed by the Examiner, *Cheney* discloses only avoiding "blade interference." [Col. 2, lines 7-9] That is, *Cheney* prevents the blades from touching each other. This is required in a coaxial rotor system. That is, if the blades contact the rotor system, the blades and rotor system would be rendered inoperative. As such, *Cheney* provides no additional teaching than that provided by *Durno*. In fact, *Durno* specifically cites *Cheney*. Such specific citation suggests that since the *Durno* reference fails to disclose maintaining a minimum rotor blade tip separation as admitted by the Examiner, *Cheney* also fails to disclose such a minimum rotor blade tip separation. Only avoiding blade contact is not Applicant's claimed invention.

Independent claim 11 requires, inter alia, locating a first rotor system an axial distance from a second rotor system, the first and second rotor systems being independently controlled so that the first rotor system and the second rotor system maintain a minimum rotor blade tip separation. It is respectfully submitted that neither *Durno* nor *Cheney* disclose independently controlling the first and second rotor system to maintain a minimum rotor blade tip separation. Rather, *Durno* discloses a first rotor system and a second rotor system, each of the rotor systems having a control system such that movement of the collective stick by the pilot moves the first and second rotor systems in equal but opposite directions. Therefore, it is respectfully submitted that *Durno*

Serial No. 10/830,160
67,008-084
S-5708

fails to disclose, teach or suggest independently controlling a first and second rotor system to maintain a minimum rotor blade tip separation. Similarly, Cheney discloses the use of a similar system that incorporates counter-rotating first and second rotors wherein each rotor is respectively controlled by a first and second swashplate. Cheney is directed to imposing cyclic pitch variations in the rotor blades to oppose and cancel out the generated gyroscopic moments. Cheney is completely silent with respect to disclosing independently controlling first and second rotor systems for maintaining a minimum rotor blade tip separation. In fact, Cheney only discloses, teaches and suggest increasing the axial distance between the first and second rotor systems in order to avoid contact therebetween. See Col. 2, lines 7-9 ("The blade deflections may require increased separation distances between coaxial counter-rotating rotors to avoid blade interference."). This is exactly the disadvantage that the present invention is attempting to overcome. As stated in Applicant's Background:

It has been found from decades of industry experience that a hub separation distance of 10% of rotor diameter is adequate for most transport types of aircraft. Disadvantageously, application of such rotor spacing to a heavy lift VTOL aircraft which are capable of emerging vertical lift requirements result in an aircraft which will likely not meet current shipboard height compatibility restrictions.

Therefore, it is respectfully submitted, that neither Durno nor Cheney, either alone or in combination, discloses, teaches, or suggests independently controlling the first rotor system and the second rotor system to maintain a minimum rotor blade tip separation as required by independent claim 11. Applicant does not claim to have invented the concept of just avoiding blade contact but the independently control of the rotor systems to maintain a minimum rotor blade tip separation. The claims are properly patentable.

Claims 12 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Durno* (4027999) in view of *Cheney Jr.* (3521971) and further in view of *US 2005/0067527* to *Peterson*. This rejection fails for at least the reason stated above.

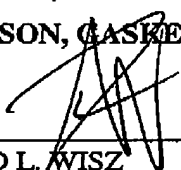
Please charge \$320 to Deposit Account No.19-2189 for one additional independent claim and a one month extension of time. If any additional fees or extensions of time are required, please charge to Deposit Account No.19-2189.

Serial No. 10/830,160
67,008-084
S-5708

Applicant respectfully submits that this case is in condition for allowance. If the Examiner believes that a teleconference will facilitate moving this case forward to being issued, Applicant's representative can be contacted at the number indicated below.

Respectfully Submitted,

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